

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



March 23, 2016

EA2016-001

Mr. John Deschaine
Line Superintendent
Alameda Municipal Power
2000 Grand St.
Alameda, CA 94501

SUBJECT: Audit of Alameda Municipal Power (AMP)

Dear Mr. Deschaine:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission, Raymond Cho of my staff conducted an electric audit of AMP from February 22 to February 25, 2016. The audit included a review of AMP's records and field inspections of its facilities.

During the audit, my staff identified violations of one or more General Orders (GOs). A copy of the audit findings itemizing the violations is enclosed. Please advise me no later than April 25, 2016, by electronic or hard copy, of all corrective measures taken by AMP to remedy and prevent such violations.

If you have any questions concerning this audit please contact Raymond Cho at (415) 703-2236 or raymond.cho@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Fadi Daye".

Fadi Daye, P.E.
Program and Project Supervisor
Electric Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission

Enclosure: Audit Findings
AMP Late or Missing Work Orders

Cc: Elizaveta Malashenko, Director, Safety and Enforcement Division, CPUC
Charlotte TerKeurst, Program Manager, Electric Safety and Reliability Branch, CPUC

AUDIT FINDINGS

I. Records Review

My staff reviewed the following records during the audit:

- a. AMP Inspection and Maintenance procedures.
- b. 2015/2016 Overhead inspection records for Maps 4218, 4113, and 4216.
- c. 2015/2016 Underground inspection records for Maps 4113, 4212, and H-16.
- d. Open and Completed work orders reported from October 2015 through January 2016.
- e. Pole loading calculations for poles in Alameda.
- f. New Construction projects on Fifth St. and Second St. in Alameda.

II. Records Review - Violations

GO 95, Rule 18-A2a, states in part:

All companies shall establish an auditable maintenance program for their facilities and lines. All companies must include a timeline for corrective actions to be taken following the identification of a Safety Hazard or nonconformances with General Order 95 on the company's facilities.

GO 95, Rule 31.1, Design, Construction, and Maintenance, states in part:

Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.

For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.

AMP's records indicated that 8 overhead work orders were not given a priority and are still pending from 2011. The longest time frame in AMP's procedures indicates a priority 4 corresponding to 3 years. Therefore, these 8 overhead work orders are considered late according to AMP procedure. Please refer to enclosure labeled AMP Late or Missing Work Orders.

GO 128, Rule 17.1, Design, Construction, and Maintenance, states in part:

Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.

For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of [the] communication or supply lines and equipment.

AMP's records indicated that 3 underground work orders are still pending from 2011. The longest time frame in AMP's procedures indicates a priority 4 corresponding to 3 years. Therefore, these 3 underground work orders are considered late according to AMP procedure. In addition, 4 underground work order records were lost but marked as completed on time. The records could not be found and therefore not verified as completed. Please refer to enclosure labeled AMP Late or Missing Work Orders.

GO 165, Table 1, Distribution Inspection Cycles, requires that padmounted distribution facilities must be inspected at least every 3 years.

AMP's maintenance procedures require that padmounted distribution facilities be inspected on a 5 year cycle. AMP representatives stated that padmounted facilities are actually detail inspected annually but did not have the statement documented.

III. Field Inspection

My staff inspected the following facilities:

Structure Number	Type of Structure	Circuit Number/Location
3216	Pole	OH 4218
3215	Pole	OH 4218
3588	Pole	OH 4218
3586	Pole	OH 4218
3587	Pole	OH 4218
3589	Pole	OH 4218
2447	Pole	OH 4218
6113	Pole	OH 4113
1597	Pole	OH 4113
6111	Pole	OH 4113
1600	Pole	OH 4113
6109	Pole	OH 4113
1603	Pole	OH 4113
6108	Pole	OH 4113
1602	Pole	OH 4113
2447	Pole	OH 4113
2446	Pole	OH 4113
2445	Pole	OH 4113
2444	Pole	OH 4113
1298	Pole	OH 4113
1299	Pole	OH 4113
1300	Pole	OH 4113
1302	Pole	OH 4113
1303	Pole	OH 4113
1304	Pole	OH 4113
1305	Pole	OH 4113
1306	Pole	OH 4113
1307	Pole	OH 4113
1308	Pole	OH 4113
1309	Pole	OH 4113
1310	Pole	OH 4113
112	Pole	OH 4216
13	Pole	OH 4216
12	Pole	OH 4216
11	Pole	OH 4216
L-30	Padmounted Transformer	UG 4113
L-31	Padmounted Transformer	UG 4113
L-29	Padmounted Transformer	UG 4113
L-28	Padmounted Transformer	UG 4113
L-35	Padmounted Transformer	UG 4113

Structure Number	Type of Structure	Circuit Number/Location
L-34	Padmounted Transformer	UG 4113
LT-27	Padmounted Transformer	UG 4113
LT-25	Padmounted Transformer	UG 4113
LT-24	Padmounted Transformer	UG 4113
LT-23	Padmounted Transformer	UG 4113
LT-22	Padmounted Transformer	UG 4113
LT-21	Padmounted Transformer	UG 4113
LT-20	Padmounted Transformer	UG 4113
LX-732	Padmounted Transformer	UG 4212
LX-731	Padmounted Transformer	UG 4212
L-730	Padmounted Transformer	UG 4212
L-729	Padmounted Transformer	UG 4212
LX-655	Padmounted Transformer	UG 4212
LX-654	Padmounted Transformer	UG 4212
L-721	Padmounted Transformer	UG 4212
LX-720	Padmounted Transformer	UG 4212
L-722	Padmounted Transformer	UG 4212
L-723	Padmounted Transformer	UG 4212
L-1406	2-Way Switch	UG H-16
L-1405	Padmounted Transformer	UG H-16
L-1404	Padmounted Transformer	UG H-16
L-1407	Padmounted Transformer	UG H-16
1429	Pole	OH 4117
2274	Pole	OH 4117
1130	Pole	OH 4117
791	Pole	OH 4117
562	Pole	OH 4117
553	Pole	OH 4117
150	Pole	OH 4117
280	Pole	OH 4117
284	Pole	OH 4117
2250	Pole	OH 4117
3397	Pole	OH 4117
LT-450	Padmounted Transformer	Tri-Pointe Residential Project
LT-451	Padmounted Transformer	Tri-Pointe Residential Project
6328	Pole	2nd St. and Mitchell Ave.
2927	Pole	3303 Central Ave.
3320	Pole	1416 Seminary Ave.

IV. Field Inspection – Undocumented Violations List

My staff observed the following violations during their field inspection. None of these violations were documented and/or addressed by AMP during its last inspection:

GO 95, Rule 58.2-A1, Grounding of Windings, states:

Transformer windings, providing service not exceeding 300 volts (except those used exclusively for energizing street lighting systems or used exclusively for energizing signal and traffic circuits) shall be effectively grounded. Banked transformers are not required to have each transformer winding grounded, however, at least one winding shall be effectively grounded. Where the secondary system is grounded at any point, the grounded conductor shall be run to each service.

The windings of the transformer on pole #2250 was not effectively grounded.

GO 95, Rule 54.6-B, Ground Wires, states in part:

That portion of the ground wire attached on the face or back of wood crossarms or on the surface of wood poles and structures shall be covered by a suitable protective covering...

GO 95, Rule 31.1, Design, Construction, and Maintenance, states in part:

Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.

The ground molding on pole #150 was damaged.

GO 95, Rule 34, Foreign Attachments, states in part:

Nothing in these rules shall be construed as permitting the unauthorized attachment, to supply, street light or communication poles or structures, of antennas, signs, posters, banners, decorations, wires, lighting fixtures, guys, ropes and any other such equipment foreign to the purposes of overhead electric line construction.

An AMP service drop at 1219 Grand St. was wrapped in foam insulating material meant for water pipes. This type of insulation is foreign to the purposes of overhead electric line construction.

GO 95, Rule 38, Table 2, Case 19-C, requires a minimum radial clearance of 3 inches between guy wires and communication conductors supported on the same pole.

An AMP guy wire on pole #1302 was in contact with a communication service drop.

GO 95, Rule 54.8-C4, From Communication Service Drops, states:

The radial clearance between supply service drop conductors and communication service drop conductors may be less than 48 inches as specified in Table 2, Column C, Cases 4 and 9; Column D, Cases 3 and 8, but shall be not less than 24 inches. Where within 15 feet of the point of attachment of either service drop on a building, this clearance may be further reduced but shall be not less than 12 inches.

- An AMP service drop at 1121 Grant St was in contact with a communication service drop.
- An AMP service drop serving 1915 Willow St. was in contact with a communication service drop.

GO 95, Rule 54.7, Climbing and Working Space, states in part:

Climbing space shall be maintained from the ground level. Climbing space, measured from center line of pole, shall be provided on one side or in one quadrant of all poles or structures with dimensions as specified in the following...

Two communication cables were running on both sides of pole #3216 resulting in obstruction of the climbing space.

GO 128, Rule 34.3-A, Strength, states:

The equipment case or enclosure shall be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.

The following transformers were not secured in place (bolted down):

- L-31
- L-29
- L-28
- LX-732
- LX-654
- LX-720

GO 128, Rule 21.5-A, Effectively Grounded (Effective Ground), states in part:

Effectively Grounded (Effective Ground) means permanently connected to earth through a ground connection or connections of sufficiently low impedance and having sufficient current-carrying capacity to prevent the building up of voltages which may result in undue hazards to persons or to connected equipment.

The following transformers were connected to a ground rod and/or wire that was severely corroded:

- L-730
- L-1407

V. Field Inspection – Documented Violations List

My staff observed the following violation(s) during their field inspection. These violations were documented and/or addressed by AMP during its last inspection:

GO 95, Rule 54.7, Climbing and Working Space, states in part:

Climbing space shall be maintained from the ground level. Climbing space, measured from center line of pole, shall be provided on one side or in one quadrant of all poles or structures with dimensions as specified in the following...

A tree was impeding the climbing space of pole #1299.